In the BSS bands, the proposed e.p.f.d. limits are as follows:[22/]

Frequency Bands	e.p.f.d. dB(W/m^2)	Percentage of time level cannot	Reference Bandwidth (MHz)
11.7-12.5 GHz in Region 1; 11.7-12.2 GHz and 12.5-12.7 GHz in Region 3	**-145**	**99.7%**	27
	-132	**100%**	
12.2-12.7 GHz in Region 2	**-144**	**99.7%**	27
	-131	**100%**	

Table 3: e.p.f.d. Limits for BSS Bands

[22/] These limits are based on the technical parameters for BSS systems contained in the current BSS plan in Appendices 30 and 30A of the ITU Radio Regulations.

SkyBridge also proposes p.f.d. limits as follows:

Frequency Bands	p.f.d. Limits
10.7-11.7 GHz	-150 dB(W/m^2) in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane; -150+(δ-5)/2 dB(W/m^2) in any 4 kHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane; and -140 dB(W/m^2) in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.
11.7-12.7 GHz	-138 dB(W/m^2) in any 4 kHz band for angles of arrival between 0 and 5 degrees above the horizontal plane; -148+(δ-5)/2 dB(W/m^2) in any 4 kHz band for angles of arrival δ (in degrees) between 5 and 25 degrees above the horizontal plane; and -138 dB(W/m^2) in any 4 kHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

Table 4: p.f.d. Limits

In the bands used by terrestrial systems, the p.f.d. limits in Section 25.208(b) of the Commission's Rules, designed for GSO FSS systems to protect terrestrial systems, should be applied equally to NGSO FSS systems, as indicated in Table 4 above. In bands not used by terrestrial systems, the p.f.d. limits can be more flexible.

2. Uplink - a.p.f.d. Limits

The a.p.f.d. is defined as the summation of the power flux-densities produced at a point in the GSO satellite orbit by all the earth stations of a NGSO system, taking into account the off-axis discrimination of the GSO receiving antenna. The a.p.f.d. is computed using the following formula:

$$\text{a.p.f.d.} = 10 \cdot \log_{10}\left[\sum_{i=1}^{N} P_i \cdot \left(G_t(\theta_i) / 4 \cdot \pi \cdot d_i^{\,2} \right) \cdot \left(G_{r,s}\ (\alpha_i) / G_{r,s\ max} \right) \right]$$

where:

- a.p.f.d. is the aggregate power flux-density at a point in the GSO orbit, radiated from the NGSO earth stations (in dB(W/m^2/4kHz) for FSS bands and dB(W/m^2/27MHz) for BSS bands);
- N is the number of NGSO earth stations in view of the GSO space station operating co-frequency with the GSO carrier;
- i is an index ranging from 1 to N, representing each of the NGSO earth stations;
- P_i is the RF power at the input of the transmitting antenna of the ith NGSO earth station (in W/4kHz for FSS bands and W/27MHz for BSS bands);
- θ_i is the off-axis angle between the boresight of the transmit antenna of the NGSO space station and the direction of the GSO space station;
- $G_t(\theta_i)$ is the transmit antenna gain of the NGSO earth station in the direction of the point in the GSO orbit;
- d_i is the distance between the ith NGSO earth station and the point in the GSO orbit;
- α_i is the off-axis angle between the boresight of the receive antenna of the GSO space station and the direction of the ith NGSO earth station;
- $G_{r,s}(\alpha_i)$ is the receive antenna gain of the GSO space station in the direction of the ith NGSO earth station; and
- $G_{r,s\ max}$ is the maximum receive antenna gain of the GSO space station.

In the FSS bands, the proposed a.p.f.d. limits are as follows:

Frequency Band	a.p.f.d. dB(W/m$^{2)}$	Percentage of time level cannot be exceeded	Reference Bandwidth (kHz)
12.75-13.25 GHz	**-186**	**100%**	4
13.75-14.5 GHz	**-170**	**100%**	4

Table 5: a.p.f.d. Limits for FSS Bands

In the BSS bands, the proposed a.p.f.d. limits are as follows:[23/]

Frequency Band	a.p.f.d. dB (W/m^2)	Percentage of time level cannot be exceeded	Reference Bandwidth (MHz)
17.3-17.8 GHz	**-119**	**99.97%**	27
	-115	**100%**	

Table 6: a.p.f.d. Limits for BSS Bands

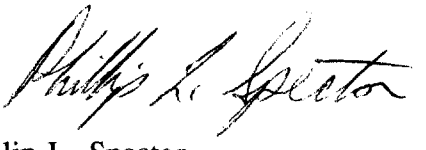
[23/] These limits are based on the technical parameters for BSS systems contained in the current BSS plan in Appendices 30 and 30A of the ITU Radio Regulations.

CONCLUSION

The proposed amendments and clarifications to Section 2.106 and Section 25.202 of the Commission's rules to permit NGSO FSS operation in the 10.7-12.7 GHz, 12.75-13.25 GHz, 13.75-14.5 GHz, and 17.3-17.8 GHz bands, in view of the proposed technical restrictions on such NGSO FSS systems, will not affect the existing allocations in the subject bands to GSO and terrestrial services. NGSO FSS systems, such as the SkyBridge System, operating in accordance with the technical criteria set forth above, will cause no noticeable degradation in the quality of service or availability of GSO or terrestrial links, and will impose no additional operational restrictions on operators of such systems. Thus, it is manifestly in the public interest that the Commission adopt the proposed amendments and clarifications on a timely basis.

Respectfully submitted,

SKYBRIDGE L.L.C.

By: 

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